	Type	L #	Hits	Search Text	DBs	Time Stamp
1	BRS	L1	21	(electrochemically adj3 (reduce or reduces or reducing) adj3 (oxide or oxides))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/10/02 10:31
2	BRS	L2	0	1 same tungsten	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/10/02 10:19
3	BRS	L3	5	1 and tungsten	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/10/02 10:31
4	BRS	L4	21	(electrochemically adj3 (reduce or reduces or reducing or lessen or shrink or shrinking or cut or cutting or diminish or diminishing or trim or trimming or ease or earasing or condense or condensing or decrease or decreasing) adj3 (oxide or oxides))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2002/10/02 10:34

DOCUMENT-IDENTIFIER: US 20020132476 A1

TITLE: Barrier layer associated with a conductor layer in damascene structures

---------- KWIC ---------

[0006] Also, the microelectronics industry has recently migrated towards the investigation of more robust and conductive metals for use in interconnection technology, such as Copper (Cu). Cu is approximately 40% lower in resistivity than Al and is much more resistant to reliability problems such as electromigration. Unfortunately, Cu has been known to cause other reliability problems associated with the high rate of Cu **diffusion** through silicon substrates and dielectric films. One such problem is electrical shorting, wherein the Cu from one Cu interconnect line diffuses into an adjacent dielectric region, forming a **conductive path to another Cu interconnect** line. Another problem is transistor poisoning, wherein Cu diffuses into the underlying silicon substrate and causes junction leakage along with **reduced** channel mobility in the transistor, thereby destroying the device. Thus, to implement Cu as an interconnect material it has become necessary to develop methods for preventing Cu from diffusing through layers of a semiconductor device. Hence, various means have been suggested to deal with the problem of copper **diffusion** into integrated circuit material. Several materials, especially metallic ones, have been suggested for use as barriers to prevent the copper **diffusion** process. Tungsten, molybdenum, and titanium nitride (TiN) have all been suggested for use as copper **diffusion**

barriers.

US-PAT-NO: 6426289

DOCUMENT-IDENTIFIER: US 6426289 B1

TITLE: Method of fabricating a barrier layer associated with a conductor layer
in damascene structures

---------- KWIC ---------

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